

2003 Consumer Confidence Report

Elmendorf Air Force Base, Alaska

April 30, 2004

The following consumer confidence report contains information about your drinking water, its source, how it is treated and most important its quality. While most of the content is required by regulation, we also include information that responds to typical questions our customers ask about the system. Why send you all this information? We think it is important for you to know what's in the water you drink. We support the public's right to know the results of our water quality monitoring and that's why we've made an effort to provide the information in a clear and useful format. The data used for this report was collected in 2003.

What is a Consumer Confidence Report??

In 1996, Congress amended the Safe Drinking Water Act. It added a provision requiring that all community water systems (serving at least 15 service connections and/or 25 people year round) deliver to their customers a brief annual water quality report. Consumer Confidence Reports summarize information that your water system already collects to comply with regulations. The Consumer Confidence Report includes information on your source water, the levels of any detected contaminants, and compliance with drinking water rules, as well as some educational material.

Where Does My Water Come From??

Elmendorf's drinking water is obtained primarily from the Upper Ship Creek Drainage Area in the Ship Creek Watershed and treated by Fort Richardson. Because the drainage area is contained within the Chugach State Park, it is protected from many chemicals (such as pesticides) that may be found in other surface water sources. While the chemical properties of the raw (untreated) water is not assessed, the Fort Richardson treatment plant routinely examines the physical quality of the raw water, including pH, turbidity, hardness, color, and alkalinity. Additional water is obtained from three groundwater wells located on Fort Richardson. Prior to introduction into the distribution system, the additional well water is chlorinated. The United States Army Corps of Engineers (USACE) has completed an assessment of our shared source water. If you would like a copy of the USACE Source Water Assessment for Fort Richardson, please contact Mr. Brian Adams at (907) 353-6623.



What Should I Know About My Water??

The sources of drinking water (both tap and bottled) include rivers, lakes, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or underground, it can dissolve naturally occurring minerals. In some cases, water can pick up radioactive material, or substances resulting from the presence of animals or human activity. Although our water supply may contain some of these contaminants, it is important to know that these substances are either removed completely or reduced to a safe level before it arrives at your tap. Contaminants that may be present in source water include:

- **Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment facilities, septic systems, agricultural livestock operations, and wildlife;
- **Inorganic Contaminants**, such as salts and metals, which may be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
- **Organic Contaminants**, including synthetic and volatile organic compounds, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban storm water runoff, and septic systems;
- **Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- **Radioactive Contaminants**, which may occur naturally or result from oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

How Do We Make Your Water Safe To Drink??

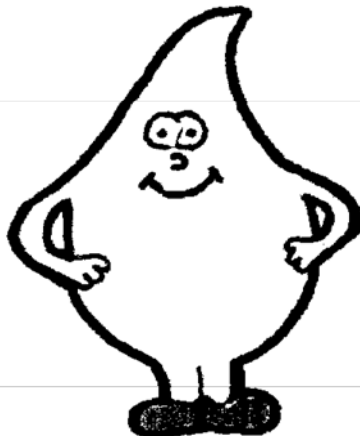
Elmendorf's superb drinking water flows from pure, sparkling, snow-fed streams. Public Works employees at the Ft. Richardson water treatment plant collect, treat, and process this water and send it to Elmendorf's water distribution system. This water, often called the best within the Department of Defense, is continually monitored for over 70 contaminants in accordance with the Safe Drinking Water Act and State of Alaska Drinking Water Regulations (18 AAC 80). The Elmendorf bioenvironmental engineer also monitors the water once it is in our distribution system. Our monitoring includes tests for bacteriological contamination, lead and copper, total trihalomethanes, total haloacetic acids, and other chemicals as required. Our water meets Federal and State drinking water standards with all contaminants detected well below the maximum allowable levels.

Prior to entering the Fort Richardson/Elmendorf Air Force Base Treatment and Distribution System, raw water from Ship Creek flows through a series of bar racks and screens designed to remove large debris that may damage the treatment works. The Fort Richardson plant uses a series of conventional water treatment processes including coagulation (causes contaminants to clump together), flocculation (increases the size of the clumps), sedimentation (settles the clumps from the water), rapid sand filtration (removes smaller particles and contaminants), and chlorination (disinfects the treated water). The Ft Richardson plant is designed to produce approximately 7 million gallons of water per day – enough to fill over 8 Olympic competition size pools! All of our treatment processes are controlled and monitored by an interconnected set of computers known as a Supervisory Control and Data Acquisition (SCADA) System. This SCADA system constantly monitors the treatment and distribution system and alerts the system operators in the unlikely event of a process disruption or malfunction. Additionally, the SCADA system operates three groundwater wells used to supplement the system during times of peak demand (such as early morning and evening when people are cooking or conducting personal hygiene activities). Because groundwater is a very high quality source of raw water, the only treatment necessary is disinfection. Each well is equipped with its own in-line chlorination system to ensure that it enters the distribution works free from any microbial contamination. The finished water is tested several times a day to ensure that pH and chlorine residuals are at appropriate levels.

Do I Need To Take Special Precautions??

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised



persons such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

What's Really In My Drinking Water??

The following table lists the **Regulated Contaminants**, required to be monitored by the EPA, that were detected in your water. While most monitoring is required to be done annually, some contaminants are sampled less frequently. In instances where sampling was not conducted in 2003, the year of the analysis and the year of the next scheduled sampling is included in the table. All the substances we found were present in quantities less than the EPA's limits for safe drinking water. Bacteriological sample collection for the Class A system is spread over three weeks, with each major loop and/or population area sampled at least once per month. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. If you would like a complete listing of test results, please call Major Henry Cabrera at (907) 552-3985 and Mr. Brian Adams at (907) 353-6623.

Type of Contaminant (Units)	Maximum Level Detected	Range	MCL	MCLG	Violation	Typical Source Of Contamination
Microbial Contamination						
Turbidity (NTU)	0.28	0.04 – 0.28	TT	TT	No	Soil runoff
Bacteriological	ND	Negative	Positive	Positive	No	Water System Loops at Elmendorf AFB, AK
Organic Chemicals						
Haloacetic Acids (ppb)	21	10 – 21	60	NA ²	No	By-product of drinking water chlorination
Total Trihalomethanes (ppb)	25.6	0.5—25.6	80	NA ²	No	By-product of drinking water chlorination
Inorganic Chemicals						
Fluoride (ppm)	2.00	0.44 – 2.00	4	4	No	Additive used to promote strong teeth
Lead (ppb)	90% = 1.1*	0.2— 1.9	AL=15	0	No	Corrosion of household plumbing systems and erosion of natural deposits
Copper (ppm)	90% = 0.111*	0.019 - 0.128	AL=1.3	1.3	No	Corrosion of household plumbing systems and erosion of natural deposits
Nitrate (ppm) ¹	0.40	0.25 – 0.40	10	10	No	Erosion of natural deposits
Thallium (ppb) ¹	0.171	0.171	2	0.5	No	Erosion of natural deposits
Barium (ppm) ¹	0.00632	0.00632	2.0	2.0	No	Erosion of natural deposits
Cadmium (ppb) ¹	1.24	1.24	5	5	No	Erosion of natural deposits
Arsenic (ppb) ¹	ND	ND	10	0	No	Erosion of natural deposits

* Of all lead and copper samples collected, 90% were below the stated values. None of the samples exceeded their respective Action Levels.
¹ These entries are based on 2002 data and next scheduled sampling is in 2004 for nitrate and arsenic. For Thallium, Barium and Cadmium these samples are due 2011 thru 2019.
² Multiple samples were taken, each corresponding to a unique location.

Terms and Abbreviations Used in the Table:

- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available technology.
- **Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **ppb or ug/l:** Parts per billion or micrograms per liter.
- **ppm or mg/l:** Parts per million or milligrams per liter.
- **Treatment Technology (TT):** A required process intended to reduce the level of a contaminant in drinking water.
- **Nephelometric Turbidity Units (NTU):** A measure of cloudiness in water.
- **Not Applicable (NA):** When NA is used in the range column, only one sample was taken, therefore, no range exists.



Web Sites for Information About Drinking Water and the Environment:

Environmental Protection Agency (EPA) Home Page – <http://www.epa.gov>
Office of Groundwater and Drinking Water – <http://www.epa.gov/ogwdw>
EPA's Drinking Water and Health: What You Need to Know – <http://www.epa.gov/safewater/dwhealth.html>
Drinking Water Activities for Kids – <http://www.epa.gov/safewater/pubs/kids.html>
United States Geologic Survey (USGS) Water Resources Education – <http://water.usgs.gov/education.html>
Publications of the USGS – <http://usgs-georef.cos.gov>
Explorer's Club (EPA) – <http://www.epa.gov/kids>
United States Dept of Agriculture (USDA) Water Quality Information Center – <http://www.nal.usda.gov/wgic/#3>
International Bottled Water Association Website – <http://www.bottledwater.org>

If you have any questions about this report or are interested in learning more about the drinking water system at Fort Richardson, please contact Mr. Brian Adams, Directorate of Public Works Project Engineer at (907) 353-6623 or Maj Henry Cabrera, Bioenvironmental Engineering Flight, (907) 552-3985. You may also call Ms. Jamie Stazel Elam, (907) 269-7624, Consumer Confidence Report Department, Alaska Department of Environmental Conservation.

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BIOENVIRONMENTAL ENGINEERING
ELMENDORF AFB, ALASKA 99506